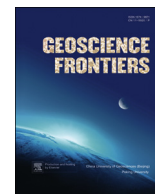


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Book review

The Geology and Tectonic Settings of China's Mineral Deposits
by **Franco Pirajno**. Springer Verlag, Berlin, 2013, 679 pp. ISBN:
978-94-007-4443-1

China is the third largest country in the world, with a land area of about 9.6 million km². It is endowed with abundant mineral resources, and the metal mining activity can be traced back to ca. 8000 years ago. However, due to language barrier, little has been known about the geology and tectonics to the outside world until 1980s. In the last three decades, a great deal of knowledge has been gained, enhanced by a vigorous cooperation between Chinese and Western geologists. Research papers about geological, geochemical, and geochronological features of mineral deposits of China are widely published and cited in international journals. A comprehensive and comprehensible English literature that summarises the features of mineral deposits in China, however, is still lacking.

It is from this point of view that the book on the "The Geology and Tectonic Settings of China's Mineral Deposits" by Dr. Pirajno is very timely. As one of the world's leading experts on mineral systems, Dr. Pirajno is eminently qualified to present this work. He has had a diverse career in industry, government and academia, published three books on tectonics and mineral deposits, and held visiting professorship at many universities and research institutions in China. Dr. Pirajno has extensively surveyed the relevant literature, successfully digested and admirably produced an excellent synthesis of existing knowledge about deposits of China. Most importantly, he travelled extensively through China and undertook field trips to many mineral deposits, providing first-hand accounts of critical observation.

An outstanding aspect of this book is the association of mineral deposits with their geodynamic settings. As mineral systems are the result of metallogenic processes associated with the geodynamic evolution of tectonic plates and their final amalgamation, placing mineral deposits in the framework of tectonic evolution is essential and important. However, this is the specific weakness of economic geologists, especially of those from China. The heuristic work of Dr. Pirajno provides a more advanced, international model for us.

The book is skillfully organised and well written. After an introduction chapter about the mineral resources, historical notes on metal mining, time scales and definitions used in this book. Chapter 2 outlines the tectonic framework of China within the global context, together with the tectono-thermal events that have formed various mineral systems. Four kinds of tectonic units have been distinguished, namely, old cratons and blocks, orogenic or fold belts, large igneous provinces, and basins including both volcano-sedimentary and sedimentary types. This provides the backdrop to the six chapters that follow. In Chapters 3 and 4, cratons and blocks including the North China Craton, the Tarim Craton, the Yangtze Craton, and the Cathaysia and the South China block are described. Chapters 5 and 6 deal with orogenic belts such as the South China, Central China, Qinling–Dabie, Hinggan, Tianshan, Junggar and Altay Orogens, the Alpine-Himalayan fold belt and Kunlun and Songpan–Ganzi Terranes. Large igneous provinces are given specific emphasis in a standalone Chapter 7. Lastly, Chapter 8 concentrates on volcanic-sedimentary and sedimentary basins and grabens that cover much of China. More importantly, the predominant mineral systems and metallogenic provinces in each tectonic unit have been presented and the geological, geochemical and geochronological features of typical mineral deposits are introduced.

In summary, this valuable book is the first English-language overview of mineral deposits in China by western expert, and the way of presenting mineral deposits within the tectonic framework appeal to the entire community of economic geoscientists. I reiterate that this book deserves to be read by all who are interested in the geology and mineral deposits of China.

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